

### *Problems in Comparing US and Soviet Warships by Designation*

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CENTRAL INTELLIGENCE AGENCY  
Directorate of Intelligence  
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RESEARCH PAPER

Problems in Comparing US and Soviet  
Warships by Designation

Summary

The lack of an international standard for designating warships creates problems for intelligence analysts charged with making comparisons between navies. This is especially true in comparisons of Soviet and US major surface combatants--warships designed to operate on the high seas.

- US "frigates" are in fact comparable to some of the Soviet "cruisers." In comparing the two navies, however, these US ships usually are counted as "destroyers" and placed in the same category with Soviet destroyers.
- Most US "ocean escort ships" are significantly different from the smaller Soviet escort ships yet are given the same designation.
- Difficulties also arise in distinguishing between various types of aircraft and helicopter carriers.

Some of the drawbacks of the existing system of warship designations could be alleviated by the following measures:

- the use of separate categories for conventional aircraft carriers and V/STOL (verti-

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*Comments and queries regarding this publication are welcomed. They may be directed to [REDACTED] of the Office of Strategic Research, Code 143, Extension 4203.*

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cal or short takeoff and landing) aircraft carriers

- redesignation of the Soviet Kynda, Kresta, and Kara classes as frigates rather than cruisers
- the use of two separate categories for ocean escort ships: major ocean escorts, for the newer US classes; minor ocean escorts, for the older US classes and for all Soviet classes now in existence.

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## Background

The designations used for some classes of Soviet and Western warships can lead to mistaken comparisons between the various navies. This problem stems from the lack of an international standard for classifying warships. It is compounded by the fact that few classes of warships have direct counterparts in armament, function, or size.

Designations for major surface combatants--warships designed to operate on the high seas--cause the greatest difficulty. Depending on the navy concerned, for example, the same basic type of ship may be classified as a cruiser, a frigate, or a destroyer. Inconsistencies may appear even within a single navy as different criteria are emphasized in designating various ships.

## Basic Surface Combatant Designations

The surface combatant designations used by the US and Soviet navies have as many differences as similarities. The principal designations used by each navy for the larger surface combatants are listed below. (Some designators used only for one or two ships have been omitted.)

### US

Attack aircraft carrier  
ASW aircraft carrier  
Guided missile cruiser  
Guided missile light cruiser  
Guided missile frigate  
Guided missile destroyer  
Destroyer  
Guided missile escort ship  
Escort ship

### Soviet

Antisubmarine cruiser (Protivolodochnyy kreyser)  
Cruiser (Kreyser)  
Rocket cruiser (Raketnyy kreyser)  
Large antisubmarine ship (Bol'shoy protivolodochnyy korabl')  
Rocket ship (Raketnyy korabl')  
Destroyer (Esminets)  
Escort ship (Storozhevoy korabl')

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Because Soviet designations such as "large antisubmarine ship" do not have direct Western counterparts, the intelligence community uses US-type designators for all Soviet ships. Presentations of comparative data generally use the following basic categories, sometimes with subcategories to distinguish between missile-armed and gun-armed ships.

<u>Category</u>	<u>Ships Included</u>
Aircraft carriers	US aircraft carriers and new Soviet "aircraft carrier" (Soviet designation unknown)
Helicopter carriers	Soviet antisubmarine cruisers
Cruisers	US cruisers; Soviet cruisers, rocket cruisers, and some large antisubmarine ships
Destroyers	US frigates and destroyers; Soviet destroyers, rocket ships, and some large anti-submarine ships
Ocean escorts	US and Soviet escort ships

There are three basic problems with this breakdown. First, the aircraft and helicopter carrier categories cover several basically different types of ships. Second, some of the Soviet ships included under the cruiser category are comparable to the US frigates, which are placed in the destroyer category. Third, most of the ships in the US ocean escort category are significantly different from the types of escorts used by the Soviets.

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## Aircraft and Helicopter Carriers

Although these categories have not caused major problems in the past, the development of new types of ships has created some confusion. In addition, the helicopter carrier category is sometimes used incorrectly.

The new Soviet Kuril class "aircraft carrier," now under construction, is significantly different from the US-type aircraft carrier. The Soviet ship is designed to carry V/STOL (vertical or short takeoff and landing) aircraft and helicopters, but it is not equipped with the catapults or arresting gear needed to handle the types of aircraft based on US carriers. In addition, the flight deck, hangar deck, and elevator capacities of the Soviet ship are relatively limited because large areas are used for weapons installations and other facilities. (*See drawings, next page.*) Although it is sometimes convenient to refer to the Kuril class as an aircraft carrier, in the general meaning of the term, this Soviet ship should not be grouped with the US carriers.

The problems of categorizing aircraft carriers probably will become more involved in the near future. For example, the US Navy plans to build a "sea control ship" and the Royal Navy is talking about a "through-deck cruiser." These ships would handle V/STOL aircraft and helicopters comparable to those expected for the Soviet Kuril class. Although all three types would be "V/STOL carriers," the proposed Western ships would be only about one-third to one-half the size of the new Soviet ship and would not be in the same class. Thus, the creation of two or more categories for V/STOL carriers may be required for precise description.

The helicopter carrier category occasionally causes some confusion because of a distinction between surface combatants and amphibious ships. As far as US and Soviet surface combatants are concerned, the term helicopter carrier applies only to the two Soviet Moskva class "ASW cruisers." The US also has helicopter carriers (the Iwo Jima class), but these are considered amphibious assault ships rather than surface combatants.

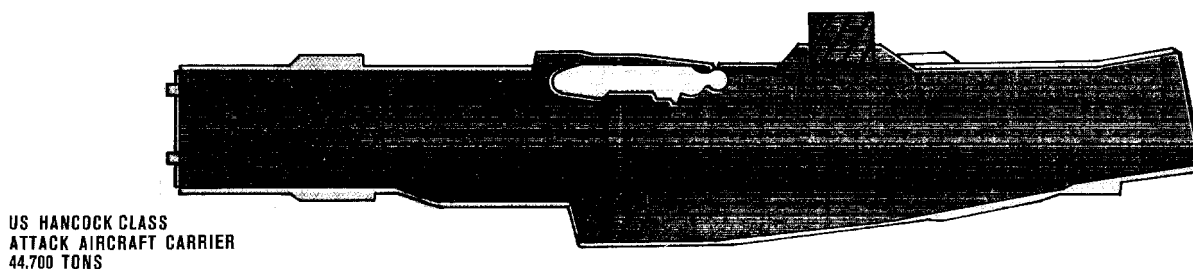
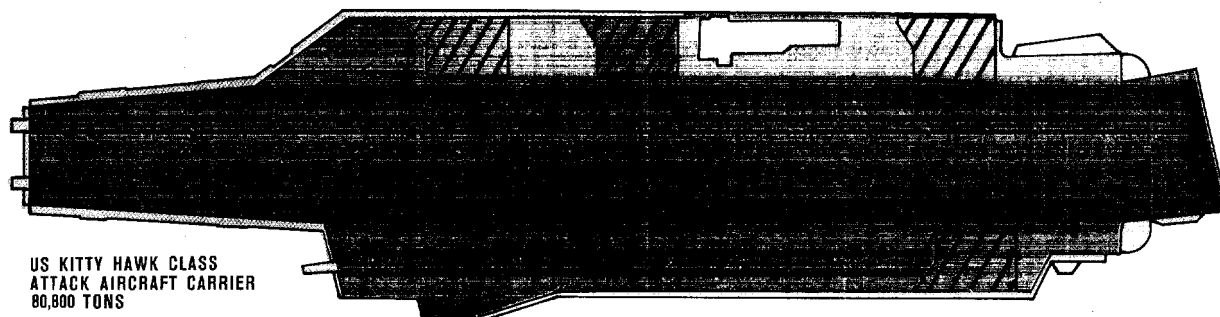
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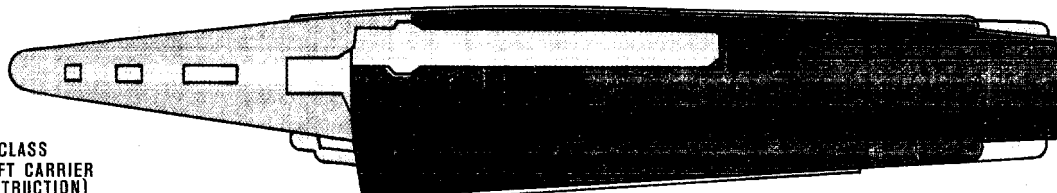
# AIRCRAFT AND HELICOPTER CARRIERS

1,100 1,000 900 800 700 600 500 400 300 200 100 0

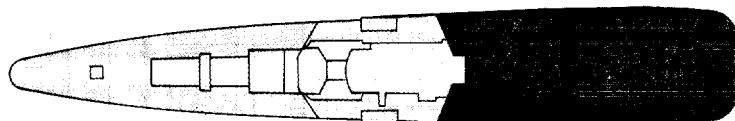
SCALE DIMENSIONS IN FEET



SOVIET KURIL CLASS  
V/STOL AIRCRAFT CARRIER  
(UNDER CONSTRUCTION)  
35-37,000 TONS (EST.)



SOVIET MOSKVA CLASS  
HELICOPTER CARRIER  
("ASW CRUISER")  
20,000 TONS



FLIGHT DECK AREA  
AIRCRAFT ELEVATORS

The Kitty Hawk class is typical of modern US attack carriers; the older Hancock class ships are being retired. The Soviet Kuril class lacks the catapults and arresting gear used on US carriers and can only handle V/STOL aircraft and helicopters. The Moskva class could support limited V/STOL operations but is basically designed for helicopters only. In contrast to the large clear decks and elevators of the US carriers, both of the Soviet ships have massive superstructures and carry various weapons systems in addition to aircraft.

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This is a valid distinction, because these US ships are lightly armed and relatively slow and have a basically different mission than the Soviet ships.

Another problem is that the Moskva class ships are sometimes incorrectly placed in the aircraft carrier category. This is not appropriate because these ships and the US aircraft carriers are basically different types. (*See drawings at left.*)

### The "Cruiser Problem"

Since the early Sixties, the Soviet Navy has built a series of missile-armed medium-sized surface combatants. These ships--the Kynda, Kresta, and Kara classes--are commonly identified as light cruisers by the West although they are similar to the US frigate classes in most respects.

The major difference between these types is that the Soviet ships carry surface-to-surface antiship missiles, whereas the US ships place more emphasis on antisubmarine warfare systems. Both types are used for multipurpose missions, however, operating independently or with other forces against surface, air, or submarine threats. All of these ships have surface-to-air missiles (which also can be used against ships), torpedo tubes, and dual-purpose guns (5-inch--127mm--guns on most of the US ships, 57mm or 76mm guns on the Soviet types). Both types also fall in the same size class--larger than destroyers but smaller than conventional cruisers. (*See drawings, next page.*)

The first ship of this type, the Kynda, is called a "rocket cruiser" by the Soviets. In the West, however, these ships were originally classified as guided missile destroyers, destroyer leaders, or frigates. The US used both the destroyer and frigate designations until 1967, when NATO decided to adopt the term "guided missile light cruiser." The rationale for this decision appears to be as follows:

- The destroyer designation is inappropriate for a ship of this size and armament.

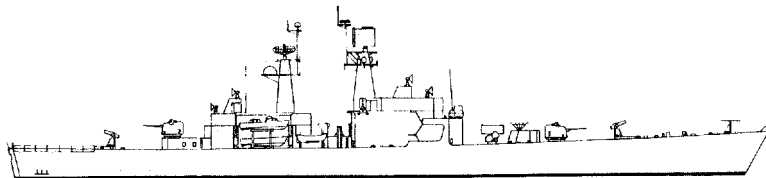
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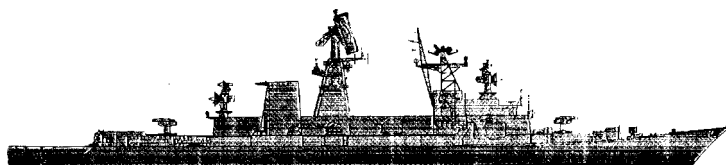
## US "FRIGATES" and SOVIET "CRUISERS"

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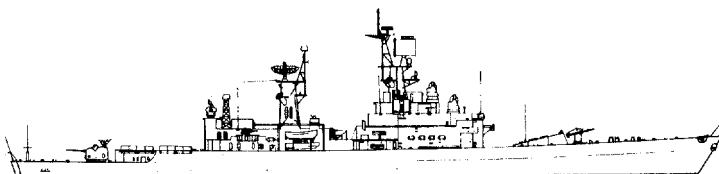
0 150 300 450 600 SCALE DIMENSIONS IN FEET



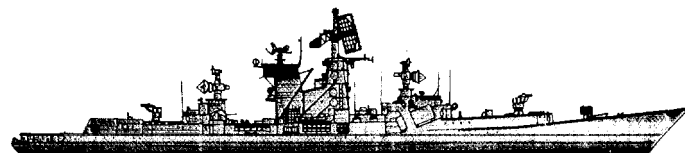
US CALIFORNIA CLASS  
10,150 TONS 30+ KTS. (NUCLEAR-POWERED) IOC-1973



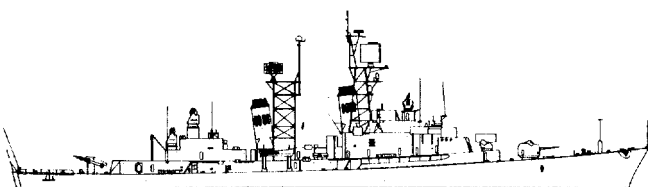
SOVIET KARA CLASS  
9,500 TONS 34 KTS. IOC-1972



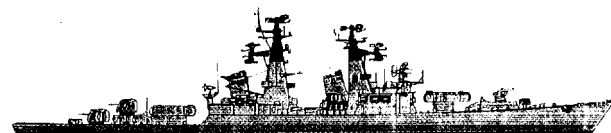
US BELKNAP CLASS  
7,940 TONS 33 KTS. IOC-1964



SOVIET KRESTA II CLASS  
6,800 TONS 32 KTS. IOC-1969



US COONTZ CLASS  
5,800 TONS 33 KTS. IOC-1959



SOVIET KYNDA CLASS  
5,600 TONS 34 KTS. IOC-1962

These drawings show typical US guided missile frigates and the Soviet Kynda, Kresta II, and Kara classes. The US calls these Soviet ships guided missile light cruisers, but they are comparable to the US frigates in most respects. The Soviets call the Kynda a "rocket cruiser" but refer to the others as "large antisubmarine ships."

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- Although the frigate designation fits well with US Navy usage, some NATO navies use this term for smaller types of combatants.
- The Soviets use the term rocket cruiser, and it could be argued that the antiship missiles of the Kynda give this ship firepower comparable to that of a conventional gun-armed cruiser several times as large.

Subsequent Soviet ships in this line of development were also tagged as missile cruisers by the West, while the US Navy continued to use the term frigate for its own ships. This situation became increasingly troublesome as new classes of ships entered service. The newer Soviet ships, for example, have more emphasis on air defense and ASW systems--the strong points of US frigates--and less emphasis on antiship systems. In addition, the surface-to-air missile systems of the US frigates have been modified for improved effectiveness in the antiship role, weakening the argument that the surface-to-surface missiles of the Soviet ships justify a cruiser designation.

The Soviets recognize the inconsistency in this situation. Although retaining the rocket cruiser designation for the Kynda, they use the term "large antisubmarine ship" for the later Kresta and Kara classes. In November 1972 a Soviet admiral told a US naval attache that the Soviets did not consider the Kresta II a cruiser and did not think it should be called one inasmuch as US ships having the same displacement are designated "frigates." The admiral agreed with the attache's comment that this was a matter of political semantics.

#### Ocean Escort Ships

The newer types of ocean escort ships of the US Navy are more comparable to destroyers than to the small ocean escorts of the Soviet Navy. Only the older types of escorts of the two navies are generally comparable. (*See drawings next page*).

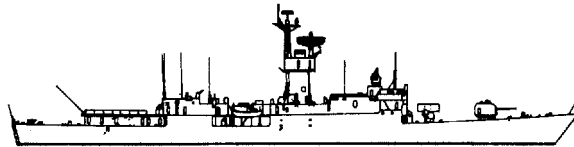
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## US and SOVIET ESCORT SHIPS

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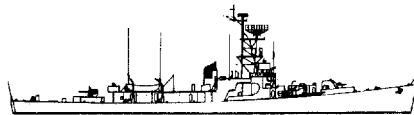
0 150 300 450 SCALE DIMENSIONS IN FEET



US KNOX CLASS  
4,100 TONS 27+ KTS. IOC-1969



SOVIET PETYA CLASS  
1,100 TONS 34 KTS. IOC-1962



US DEALEY CLASS  
1,900 TONS 26 KTS. IOC-1954



SOVIET RIGA CLASS  
1,320 TONS 28 KTS. IOC-1952

The drawings above show the contrast between the newer classes of US escort ships and the Soviet and older US types given the same designation. The armament and overall capabilities of the newer US ships are markedly superior to the other types.

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The newer US ocean escort ships range from 2,650 to 4,100 tons. Most of them have helicopter hangars, ASROC antisubmarine weapon launchers, advanced sonar equipment, and 5-inch guns. Most also have, or will have, surface-to-air missile systems, and some are being equipped with surface-to-surface missiles.

The newer Soviet ocean escorts, in contrast, only displace 1,100 to 1,150 tons. They are capable of higher dash speeds than the US ships, but are otherwise inferior in performance and armament. They do not have helicopter facilities or missile systems; they have only 76mm guns, and most have inferior sonar equipment.

#### Proposed Changes in Designation System

Some of the drawbacks of the existing system of warship designations could be alleviated by the following measures:

- the use of separate categories for conventional aircraft carriers and V/STOL aircraft carriers
- redesignation of the Kynda, Kresta, and Kara classes as frigates rather than cruisers
- the use of two separate categories for ocean escort ships: major ocean escorts, for the newer US classes; minor ocean escorts, for the older US classes and all Soviet classes now in existence.

The use of separate "aircraft carrier" and "V/STOL carrier" categories would provide a distinction between the conventional US-type carrier and the basically different type of ship being built by the Soviets. This is especially important in the case of summary comparisons between the two navies. The Soviet ship could still be identified as an aircraft carrier in those cases where there was no direct comparison to US forces and where a definition of the term "V/STOL" was impractical.

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The following table compares other elements of the US and Soviet major surface combatant forces according to existing and proposed designations:

US and Soviet  
Major Surface Combatant Forces\*  
Estimated Mid-1973 Strength

	<u>Existing System</u>		<u>Proposed System</u>	
	<u>US</u>	<u>Soviet</u>	<u>US</u>	<u>Soviet</u>
Cruisers	9	30	9	15
Frigates	-	-	28	15
Destroyers	128	78	100	78
Major ocean escorts	-	-	59	-
Ocean escorts (all types)	68	105	-	-
Minor ocean escorts	-	-	9	105

\* *Aircraft and helicopter carrier categories excluded. US side also excludes 12 USCG cutters that could be classified as destroyers or major escorts.*

Whenever possible it is best to use detailed comparisons on a ship-to-ship basis. Summary comparisons of any kind tend to be oversimplified, and rarely provide much useful information. For example, a comparison of the number of destroyers in the US and Soviet navies has little meaning without a consideration of the specific characteristics and functions of the two forces. Despite this obvious problem, however, summary data are frequently required. In these cases, use of the type of breakdown suggested above would avoid some of the drawbacks of the existing approach.

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